

REMARKS/ARGUMENTS

Claims 1, 3-9, 12, 14-16, and 18-20 are pending. Claims 1, 7-8, and 18-20 have been amended. Claims 2, 10, 11, 13, and 17 have been cancelled. No claims have been allowed.

Responsive to the Examiner's rejection of Claims 1-20 under 35 U.S.C. § 112, second paragraph, Applicants have deleted the term "decomposition" from Claim 1 and substituted the term "melt" therefor to recite a melt temperature. Further, Applicants have deleted the phrase "especially of" from Claim 1, and have provided antecedent basis for the term "the plastic" in Claim 3.

The Examiner rejected Claims 1, 4-6 and 15-16 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,660,212 to Boen et al. Further, the Examiner rejected Claims 7-8 and 19-20 under 35 U.S.C. § 103(a) as being unpatentable over Boen et al. '212 in view of U.S. Patent No. 6,109,062 to Richards. The Examiner rejected Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Boen et al. '212 in view of U.S. Patent No. 6,334,337 to Macedo et al. The Examiner has rejected Claims 2-3 and 10-14 under 35 U.S.C. § 103(a) as being unpatentable over Boen et al. '212 in view of U.S. Patent No. 4,122,718 to Gustafson and U.S. Patent No. 3,498,778 to Hynd. The Examiner also rejected Claims 17-18 under 35 U.S.C. § 103(a) as being unpatentable over Boen et al. '212 in view of Gustafson '718, Hynd '778, and Richards '062.

Boen et al. '212 discloses a crucible for melting a material, such as glass. Crucible 1, shown in Fig. 1, includes a number of individual segments 2 together defining a volume in which a material 6 is contained. Referring to Figs. 2a and 2b, each segment 2 includes an inner wall of copper 8 through which cooling water may flow, and an outer wall of stainless steel 9 which is in contact with the material 6 within crucible 1. Similar embodiments are shown in Figs. 3-5, wherein in each of the foregoing, the layer of each segment 2 which is in contact with the material 6 within crucible 1 is stainless steel wall 9.

Hynd '778 discloses a stirrer for glass melts, shown in Fig. 1, including refractory body 1 mounted upon driving tube 3, which is made of heat resistant steel. Specifically, refractory body 1 is captured between ferrule 6 and cap 8 which are threaded onto tube 3. An insulating air jacket is defined between internal wall 5 of refractory body 1 and tube 3. Cooling water is circulated through driving tube 3 to cool the interior of refractory body 1. Refractory body 1 may be made of bubbled alumina or sillimanite. "[w]here bubbled

alumina is used it is coated with platinum to avoid the interaction which would otherwise occur between the bubbled alumina and the molten glass." (col. 4, lines 45-49). Sillimanite "does not interact significantly with molten glass and accordingly does not normally require a protective coating." (col. 4, lines 50-53).

Gustafson '718 discloses a liquid level sensor 18 for fluids such as water, shown in Fig. 1. With additional reference to Fig. 2, the sensor 18 includes a pair of wires 13 enclosed by a web of material 17 such as a fluoroplastic. As explained in the disclosure, the capacitance of wires 13 varies as to whether same are within the liquid and surrounded thereby, or whether same are above the liquid and surrounded by air. In this manner, the level of liquid 20 may be determined within a container 22 in which the sensor 18 is disposed.

Amended independent Claim 1 calls for structural component for a device for the treatment of glass melts, with a base body of metal or of a metal alloy with a cooling system in which a cooling medium is led through for the leading-off of heat through the structural component, the base body is provided with a coating of a plastic material the melt temperature of which lies below the temperature of the glass melt, the cooling system is designed and arranged in such manner that the temperature of the boundary layer of the glass melt that directly surrounds the structural component lies below the melt temperature of the coating material.

Applicant respectfully submits that amended independent Claim 1 is not anticipated by Boen et al. '212 because Boen et al. '212 fails to disclose each and every limitation of independent Claim 1. Specifically, Boen et al. '212 fails to disclose a structural component for the treatment of glass melts including a base body of a metal or metal alloy which is provided with a coating of a plastic material, the melt temperature of which lies below the temperature of the glass melt. By contrast, Boen et al. '212 discloses a crucible made of a plurality of segments, each of the segments formed with an inner layer of copper and an outer layer of stainless steel, the stainless steel being in contact with the glass melt. In this manner, Boen et al. '212 does not disclose, teach, or suggest a structural component having a plastic coating, the plastic coating having a melt temperature below the temperature of the glass melt. Rather, the stainless steel outer layer of the segments of the Boen et al. '212 crucible

would be highly resistant to the molten glass within the crucible. Therefore, Applicants respectfully submit that independent Claim 1 is not anticipated by Boen et al. '212.

Further, Applicants respectfully submit that amended independent Claim 1 is not obvious in view of Boen et al. '212 in combination with Gustafson '718 and Hynd '778. In particular, one of ordinary skill, having no knowledge of Applicants' invention, would not combine the disclosures of the foregoing references in the manner relied upon by the Examiner. Specifically, Gustafson '718 discloses a liquid level sensor for liquids such as water, including a pair of wires enclosed by a fluoroplastic. However, although Gustafson '718 briefly mentions that the liquids may be "of a corrosive nature" (col. 1, lines 30-33), Gustafson '718 contains no teaching or suggestion that the liquid level sensor thereof could be used with very high temperature materials such as glass melts. In particular, one of ordinary skill in the art would expect the fluoroplastic layer of the liquid level sensor of Gustafson '718 to immediately melt and corrode in the presence of a glass melt.

Hynd '778, although disclosing a stirrer which may be used in glass melts, discloses that the outer layer of the stirrer, which is in contact with the glass melt, is made of refractory body such as platinum-coated bubbled alumina or sillimanite which does not interact with the molten glass. Thus, although the interior portion of the refractory material of the Hynd '778 stirrer is cooled, the refractory material is resistant to the molten glass. Finally, as discussed above, Boen et al. '212 discloses only a stainless steel coating for contact with molten glass.

In view of the foregoing, one of ordinary skill in the art, with no knowledge of Applicant's claimed invention, would have no incentive or motivation to form an interiorly cooled stirrer with an outer coating of a fluoroplastic material having a melt temperature below the temperature of the glass melt, because a person of ordinary skill would have no reason to believe that such an apparatus would be resistant to corrosion by the molten glass.

By contrast, the present inventors have surprisingly found that a structure for treatment of glass melts may have a base body of a metal or metal alloy with a cooling system therethrough, the base body coated with a coating of a plastic having a melt temperature below the temperature of the glass melt, whereby the coating is resistant to corrosion by the glass melt. For the foregoing reasons, Applicants respectfully submit that amended independent Claim 1 is not obvious over the combination of Boen et al. '212, Gustafson '718, and Hynd '778. Further, because Claims 3-9, 12, 14-16, and 18-20 each

Application Serial No. 09/759,314
Amendment dated June 11, 2003
Reply to Office Action dated March 18, 2003

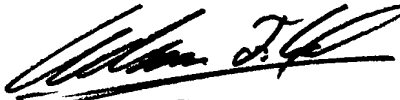
depend from Claim 1, Claims 3-9, 12, 14-16, and 18-20 are also not obvious over the combination of Boen et al. '212, Gustafson '718, and Hynd '778.

It is believed that the above represents a complete response to the Official Action and reconsideration is requested. Specifically, Applicants respectfully submit that the application is in condition for allowance and respectfully request allowance thereof.

In the event Applicants have overlooked the need for an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby petition therefore and authorize that any charges be made to Deposit Account No. 02-0385, Baker & Daniels.

Should the Examiner have any further questions regarding any of the foregoing, he is respectfully invited to telephone the undersigned at (260) 424-8000.

Respectfully submitted,


Adam F. Cox
Registration No. 46,644

Attorney for Applicants

AFC/mt

BAKER & DANIELS
111 East Wayne Street, Suite 800
Fort Wayne, IN 46802
Telephone: 260-424-8000
Facsimile: 260-460-1700

Enc. Return Postcard

CERTIFICATION OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on: June 11, 2003

ADAM F. COX, REG. NO. 46,644

Name of Registered Representative


Signature

June 11, 2003

Date